REMARKS

The Office Action dated June 26, 2008, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

STATUS OF THE CLAIMS

Claims 1, 3-7, 12, 14-16, and 21-23 are currently pending in the application, of which claims 1, 7, 12, 22, and 23 are independent claims. Claims 1, 3-7, 12, and 14-16 have been amended, and claims 21-23 have been added, to more particularly point out and distinctly claim the invention. No new matter has been added. Claims 2, 8-11, 13, and 17-20 have been canceled without prejudice or disclaimer. Claims 1, 3-7, 12, 14-16, and 21-23 are respectfully submitted for consideration.

REJECTIONS UNDER 35 U.S.C. 103

Claims 2, 8, 13, and 17-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,370,080 of Norefors et al. ("Norefors") in view of U.S. Patent No. 6,137,791 of Frid et al. ("Frid"). This rejection is moot and should be withdrawn in view of the amendments provided above, which cancel the rejected claims without prejudice or disclaimer. Consequently, withdrawal of the rejection is respectfully requested.

Claims 1, 3-5, 7, 9-10, 12, 14-16, and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Frid in view of Norefors. The Office Action acknowledged that Frid fails to disclose or suggest all of the features of the rejected claims and cited Norefors to remedy the deficiencies of Frid. Applicants respectfully traverse this rejection.

Claim 1, upon which claims 3-6 depend, is directed to a method including authenticating a mobile node by an access router. The method also includes authorizing the mobile node to participate in a candidate access router discovery procedure. The method further includes maintaining, by the access router within a mobile internet protocol environment, a cache of neighboring access routers as handover candidates, capabilities of the neighboring access routers, and associated access points of the neighboring access routers. Access routers are considered neighbors only if the access routers comprise access points with overlapping coverage areas. The method additionally includes populating the cache with a cache entry in response to a handover action of the mobile node. The cache entry concerns a neighboring access router, the capabilities of the neighboring access router, and an associated access point from which the mobile node is handed over. The cache entry is tagged with authentication information of the mobile node. A total number of cache entries that can be tagged and thus introduced into the cache by the mobile node is limited.

Claim 7 is directed to a system including a plurality of access routers within a mobile internet protocol environment, each of the access routers configured to

authenticate a mobile node, to authorize the mobile node to participate in a candidate access router discovery procedure, and to maintain a cache of neighboring access routers as handover candidates, capabilities of the neighboring access routers, and associated access points of the neighboring access routers. The access routers are considered neighbors only if the access routers comprise access points with overlapping coverage areas. The system also includes a plurality of mobile nodes, each of the mobile nodes configured to perform a handover action between the access routers. The cache is configured to be populated with a cache entry in response to a handover action of a mobile node. The cache entry concerns a neighboring access router, the capabilities of the neighboring access router, and an associated access points from which the mobile node is handed over. The cache is further configured to tag the cache entry with authentication information of the handover action performing mobile node, and to limit a total number of entries that can be tagged and thus introduced into the cache by any given mobile node.

Claim 12, upon which claims 14-16 and 21 depend, is directed to an apparatus including a first controller configured to authenticate a mobile node. The apparatus also includes a second controller configured to authorize the mobile node to participate in a candidate access router discovery procedure. The apparatus further includes a cache of neighboring access routers as handover candidates, capabilities of the neighboring access routers, and associated access points of the neighboring access routers. Access routers are considered neighbors only if the access routers comprise access points with

overlapping coverage areas. The cache is configured to be populated with a cache entry in response to a handover action of the mobile node. The cache entry concerns a neighboring access router, the capabilities of the neighboring access routers, and an associated access points from which the mobile node is handed over. The cache is further configured to tag the cache entry with authentication information of the handover action performing mobile node, and to limit a total number of entries that can be tagged and thus introduced into the cache by any given mobile node.

Applicants respectfully submit that the combination of Frid and Norefors fails to disclose or suggest all of the features of any of the presently pending claims.

Frid generally relates to a roaming mechanism enabling a mobile station to roam between a first data packet network utilizing a Mobile IP Method (MIM) and a second data packet network utilizing a Personal Digital Cellular Mobility Method (PMM). The PMM network includes a foreign agent (FA) for enabling a mobile station associated with the MIM network and currently roaming within the PMM network to communicate packet data with an associated home agent (HA). The PMM network also includes an HA for enabling a mobile station associated with the PMM network and currently roaming within the MIM network to communicate packet data with an associated FA.

Norefors generally relates to a method for protecting communications relating to a mobile terminal during a handover of the mobile terminal from a first access point to a second access point, in a mobile, wireless telecommunications network. The method includes transmitting a security token from the first access point to the mobile terminal

and from the mobile terminal to the second access point. The method also includes transmitting the security token from the first access point to the second access point through a fixed network to which both the first and the second access points are connected. The method also includes establishing a communications link between the mobile terminal and the second access point to achieve secure handover if the second access point determines that the security token received from the mobile terminal matches the security token received from the first access point.

Applicants respectfully submit that the combination of Frid and Norefors fails to disclose or suggest all of the features of any of the presently pending claims. For example, the combination of Frid and Norefors does not disclose or suggest "a cache of **neighboring** access routers . . . wherein access routers are considered neighbors only if the access routers comprise access points with overlapping coverage areas," as recited in claim 1 and similarly recited in claims 7 and 12. The Office Action cited Frid as allegedly disclosing these features of the present claims. Applicants respectfully disagree.

As shown by FIG. 5 of Frid, for example, an Internet Protocol (IP) tunnel (e.g., an IP tunnel 755) is established between an HA of the MIM network and the FA of the PMM network. However, Frid does not disclose or suggest that the HA and the FA comprise access points with overlapping coverage areas, and, therefore, cannot disclose a cache of neighboring access routers.

Norefors fails to cure these deficiencies in Frid. Norefors, as discussed above, refers to the first access the second access points (see, for example, col. 2, lines 56-60). Norefors, like Frid, fails to disclose or suggest that the first and the second access points include overlapping coverage areas, and, therefore, cannot disclose a cache of neighboring access routers.

Thus, even if Frid was combined with Norefors, the combination would fail to disclose or suggest "a cache of neighboring access routers . . . wherein access routers are considered neighbors only if the access routers comprise access points with overlapping coverage areas," as recited in claim 1 and similarly recited in claims 7 and 12.

Furthermore, the combination of Frid and Norefors does not disclose or suggest "a cache of neighboring access routers **as handover candidates**," as recited in claim 1 and similarly recited in claims 7 and 12.

Frid, as discussed above, refers to the roaming mechanism including the IP tunnel between the HA of the MIM network and the FA of the PMM network, and **enabling the mobile station to roam** between the MIM and the PMM networks (see Abstract and for example, FIG. 5).

Norefors, as discussed above, refers to the method for **protecting communications relating to the mobile terminal** during the handover of the mobile terminal (see Abstract).

According to certain embodiments of the present invention, however, the cache of access routers are used for **selecting a target access router for future handoffs** (see

paragraph [0037]). For example, the cache of access routers may be consulted "to determine which access router best suits the capabilities needed by [the] mobile terminal" (see paragraph [0040]). This is expressed by the feature "a cache of neighboring access routers as handover candidates" of independent claim 1, as well as by the similar features of independent claims 7 and 12, which each have their own respective scope.

Taking the above into consideration, Frid and Norefors are not directed towards a cache of access routers as handover candidates. Hence, Norefors could not have inspired a person of ordinary skill in the art, such that the subject matter of the independent claims would have become obvious without involving inventive (*i.e.,* non-obvious) activity. Also, a combined consideration of both cited references could not have led a person skilled in the art to the subject matter of the independent claims without requiring an inventive step.

Furthermore, the combination of Frid and Norefors does not disclose or suggest "a cache of . . . **capabilities** of the neighboring access routers," as recited in claim 1 and similarly recited in claims 7 and 12.

Frid, as discussed above, refers to the IP tunnel between the HA of the MIM network and the FA of the PMM network (see, for example, FIG. 5). Frid does not disclose or suggest that the IP tunnel stores the capabilities of the HA and the FA. Accordingly, the IP tunnel of Frid cannot be considered to correspond to the cache of the claimed invention.

Norefors does not cure this deficiency in Frid. Norefors refers to a fixed network including transmission equipment that communicates with various systems that are external to the wireless network, such as the Internet (see col. 1, lines 11-16). However, Norefors does not disclose or suggest storing the capabilities of the fixed network and/or the transmission equipment. Therefore, Norefors cannot disclose a cache of capabilities of neighboring access routers.

Thus, the combination of Frid and Norefors fails to disclose or suggest "a cache of . . . capabilities of the neighboring access routers," as recited in claim 1 and similarly recited in claims 7 and 12.

For at least the reasons discussed above, Applicants respectfully submit that the combination of Frid and Norefors fails to disclose or suggest all of the elements of claims 1, 7, and 12. Specifically, Applicants respectfully submit that the combination of Frid and Norefors fails to disclose or suggest all of the elements of a candidate access router discovery (CARD) procedure, such as "maintaining . . . a cache of neighboring access routers as handover candidates [and] capabilities of the neighboring access routers," as recited in claim 1 and similarly recited in claims 7 and 12. Therefore, Applicants respectfully request that the rejection of claims 1, 7, and 12 be withdrawn.

Claims 3-6, 14-16, and 21 depend respectively from, and further limit, claims 1, 7, and 12. Thus, each of claims 3-6, 14-16, and 21 recite subject matter that is neither disclosed nor suggested in the combination of Frid and Norefors. It is, therefore, respectfully requested that the rejections of claims 3-6, 14-17, and 21 be withdrawn.

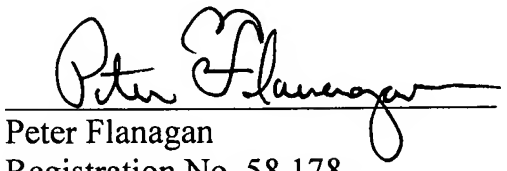
CONCLUSION

For the reasons set forth above, it is respectfully submitted that each of claims 1, 3-7, 12, 14-16, and 21-23 recite subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that all of claims 1, 3-7, 12, 14-16, and 21-23 be allowed, and that this application be passed to issuance.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Peter Flanagan
Registration No. 58,178

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Vienna, Virginia 22182-6212
Telephone: 703-720-7800
Fax: 703-720-7802

LHT:PCT:kh